

What is Claimed Is:

1. A low energy method of pyrolysis of hydrocarbon material comprising:
 - providing said hydrocarbon material;
 - loading said hydrocarbon material into a reaction chamber;
 - adding a catalyst to said reaction chamber, and
 - heating said reaction chamber for a sufficient time to provide substantially complete pyrolysis,
 - said method occurring while maintaining a vacuum and yielding reaction products comprising a solid carbonaceous residue, a liquid hydrocarbon product and a combustible gas.
2. The method of Claim 1, wherein said catalyst is clay.
3. The method of Claim 2, wherein said clay is selected from the group consisting of montmorillonite, bentonite, beidillite and combinations thereof.
4. The method of Claim 2, wherein said clay is pillared clay.
5. The method of Claim 2, wherein said clay is a natural ore.
6. The method of Claim 1, wherein said catalyst is a commercial clay containing product.
7. The method of Claim 6, wherein said commercial clay product is selected from the group consisting of cat litter and oil spill absorbent and combinations thereof.
8. The method of Claim 2, wherein said catalyst is added in an amount of about 0.01 wt.% to 3.0 wt.%, based on the total weight of said hydrocarbon material.
9. The method of Claim 1, wherein said heating of said reaction chamber results in a reaction temperature of said hydrocarbon material of between about 150° to 850° F.
10. The method of Claim 1, wherein said reaction temperature of said hydrocarbon material is maintained at between about 350° to 850°F.

26. A process for reclamation and recovery of constituents of discarded vehicle tires and other rubber products cut into pieces for reuse or environmentally safe disposal, comprising:

- transferring tire pieces from a feed supply by a conveyor into a feeder
- 5 bin; and
- transferring the tire pieces from the feeder bin to the inlet of a low temperature reactor chamber by a helicoid auger.

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